of life (range 11–18 days). Wilcoxon signed rank-test was used to test for differences in cTnT between the different time points.

Results Mean gestational age was 26.1 weeks (range 23.0–27.9) and mean birth weight 838 g (438–1287 g). At postnatal day 3, median cTnT was 148 ng/l (range 82–386). cTnT decreased between day 3 and day 7 to 96 ng/l (68–214) (p < 0.001). Between one and two weeks of age, cTnT again increased to 144 ng/l (95–338) (p = 0.001). Thirty-four infants (57%) were treated for a hemodynamically significant PDA (hsPDA) at a mean age of 8 days (SD 3.3). Twenty-three received only pharmacological treatment, 9 had surgery after pharmacological treatment and 2 had primary surgery. cTnT did not differ at any of the three time points between infants treated for hsPDA and infants not treated. Five infants who later died had significantly higher cTnT at 7 days of age than the 55 survivors (median 175 ng/l, compared to 94 ng/l) (p = 0.01).

Conclusion cTnT levels in extremely preterm infants are tenfold significantly higher cTnT at 7 days of age than the 55 survivors within normal reference limits. There was no significant difference in the right ventricular E/A ratio [1.26(0.28) vs. 1.41(0.28), p = 0.06], but recipients showed a slightly lower right ventricular c’/a’ ratio when DTI was used. TTTS twins had smaller longitudinal left and right ventricular dimensions than controls. Besides a marginally lower ventricular strain in donors compared with controls, speckle tracking could not demonstrate any group differences in systolic ventricular function.

Conclusion Despite significantly different fetal cardiac loading conditions, survivors of laser-treated TTTS show only minor within-pair differences in diastolic cardiac function at follow-up. Cardiac function in TTTS twins compare well to singleton controls, suggesting a favourable long-term outcome.
Background and aims The adaptive changes of the fetal heart in fetal growth restriction (FGR) could persist into childhood and be responsible for the increased cardiovascular mortality rate in adulthood. The aim of the study was to assess cardiac morphology and function in newborns with FGR.

Methods FGR was defined as a birth weight centile ≤ 10. Prospective study of 50 neonates, 25 with FGR and 25 with normal intrauterine growth and weight at birth (Table 1). Comprehensive echocardiographic study was performed assessing cardiac morphology, systolic and diastolic function.

Results Compared with controls, neonates with FGR had more globular cardiac ventricles (Table 1), lower systolic excursions of the tricuspid and mitral valvular plane and lower values of the s’ in the lateral and septal mitral annulus in the tissue Doppler imaging (TDI) study (p < 0.05). The e’ at the tricuspid, lateral and septal mitral annulus together with the E wave of tricuspid inflow were significantly reduced in the FGR group; and tricuspid deceleration time showed a trend without reaching statistical significance.

Conclusions Newborns with FGR manifest cardiac shape changes, reduced systolic values of the TDI at the left heart and lower values of diastolic function more pronounced at the right heart compared with neonates with normal intrauterine growth.

**PS-022** WITHDRAWN

**Congenital Heart Disease**

**PS-023** THE PREVALENCE AND SPONTANEOUS CLOSURE RATE OF ISOLATED VENTRICULAR SEPTAL DEFECT IN NEWBORNS BY ECHOCARDIOGRAPHIC SCREENING

**Aims** Evaluation of the prevalence and spontaneous closure rate of the most common congenital heart defect (CHD) – the ventricular septal defect (VSD) – in one maternity clinic, using colour flow Doppler echocardiographic screening (ECHO).

**Methods** Over a period of 7 years ECHO was offered to all babies who were born at the Marien hospital in Darmstadt. An experienced paediatric cardiologist performed the ECHO using a 10 MHz transducer within the first 72 h of neonatal life. The prevalence of different types of VSD and their outcome were evaluated.

**Results** 8082 neonates were screened, 399 cases (49/1000) of CHD were detected by ECHO. VSD was found in 320 neonates (40/1000) (137 male, 183 female): 4 perimembranous, 24 multiple and 292 muscular VSD. 2 major, 16 hemodynamically significant and 304 minor VSD. 46 had a typical murmur (14%), 274 were without clinical sign (including 1 major VSD). In the follow-up (3 month to 6.7 years) 280 could be included: the 2 major VSD had to be closed interventionally and surgically within the first year of life. The spontaneous closure rate was 89% after 0.2–4.5 years (average 0.6) (hemodynamically significant: 50%, minor VSD: 93%). All VSD without spontaneous closure after 1 year (22 cases) had a typical murmur.

**Conclusions** The prevalence of VSD is considerably high in neonates when ECHO is performed. There are slightly more female neonates with this diagnosis. The spontaneous closure rate is high regarding minor VSD. Auscultation is insufficient to diagnose VSD in neonatal period but is excellent in the follow-up to detect VSD without spontaneous closure.

**PS-024** NEURODEVELOPMENTAL EXAMINATION BY BAYLEY SCALE OF INFANT DEVELOPMENT-II IN CHILDREN WITH CYANOTIC CONGENITAL HEART DISEASE

**Aims** Evaluation of the neurodevelopmental evaluation of the children with cyanotic congenital heart disease.

**Methods** Children between the age of six to fourty-two months were included in the study and were evaluated in three groups measured by EC after 10 min (3.76 ± SD vs 3.78 ± SD; p = 0.56, Wilcoxon test).

**Conclusions** EC is feasible, reproducible and quick. It could be an useful tool for continuous monitoring and haemodynamic evaluation in neonates. EC is particularly interesting for the clinical management of preterm neonates.
PS-020 Cardiac Function In Newborns With Fetal Growth Restriction: Morphological And Functional Changes
L Rodriguez Guerineau, M Perez Cruz, FJ Cambra, O Gómez, J Carretero, MD Gomez Roig, F Crispi and J Bartrons

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